APPROVED O.G. FIG.									
ВУ	ÇLASS	SUBCLASS							
DRAFTSMAN									

Appln-10.: 09/401,636

Applicant(s): Lars Hellman
IMMUNOGENIC POLYPEPTIDES FOR INDUCING ANTI-SELF

**IGE RESPONSES** 

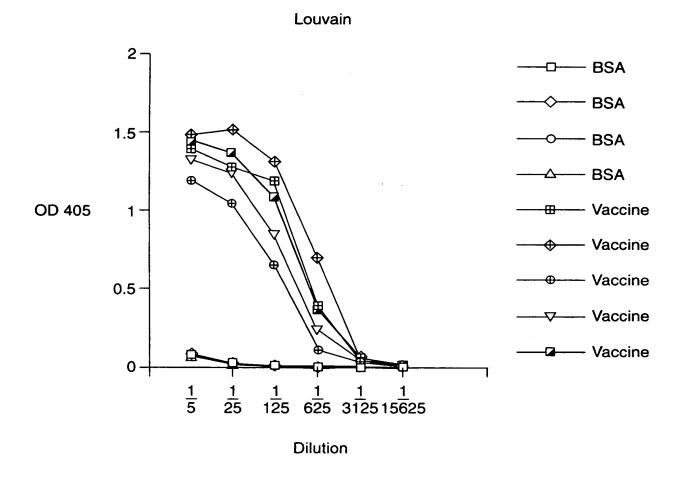


Fig. 3b

	APPROVED	O.G. FIG.					
•	BY ™	ÇLASS	SUBCLASS				
	DRAFTSMAN						

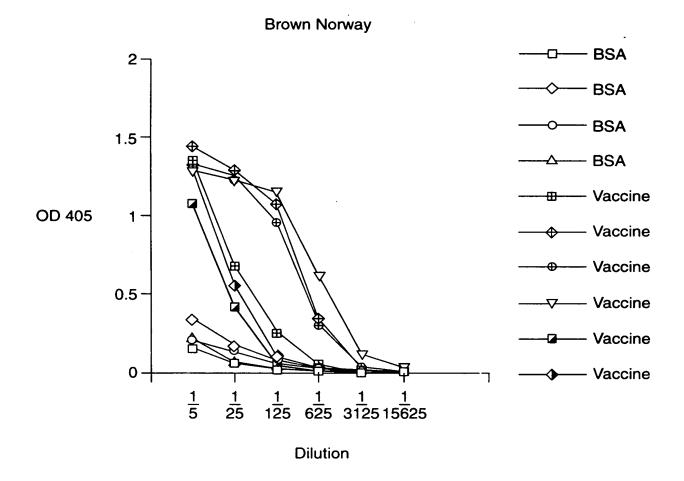
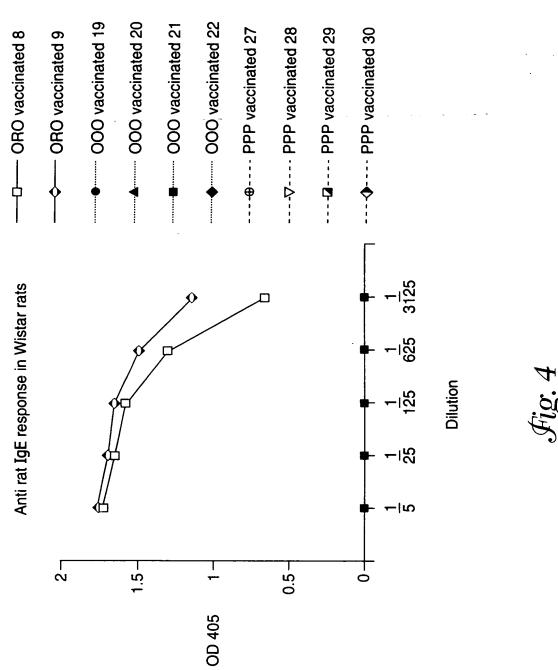


Fig. 3c

APPROVED D.G. FIG.							
		SUBCLASS					
DRAFTSMÂN		· 1					

Appln No. 3/401,636 Page 10 c. 0
Applicant(s): Lars Hellman
IMMUNOGENIC POLYPEPTIDES FOR INDUCING ANTI-SELF **IGE RESPONSES** 



APPROVED O'G. FIG. BY DRAFTSMAN

Applicant(s): Lars Hellman
IMMUNOGENIC POLYPEPTIDES FOR INDUCING ANTI-SELF
IGE RESPONSES

	FTPPTVKILQSSCDGGGHFPPTIQLLCLVSGYTPGTINITW Human IgE C2C3C4 PVNITKPTVDLLHSSCDPNA-FHSTIQLYCFVYGHIQNDVSIHW RAt IgE C2-C3-C4 PVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-Op2-3-4	0	EDGQVMDVDLSTASTTQEGELASTQSELTLSQKHWLSDRTYTCQVTYQGHTFEDSTK Human IGE C2C3C4 JMDDRKIYETHAQNVLIK-EEGKLASTYSRLNITQQQWMSESTFTCKVTSQGENYWAHTR RAt IGE C2-C3-C4 VDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSAQ His6-Op2-3-4	0	Human IgE C2C3C4 Rat IgE C2-C3-C4 His6-Op2-3-4	0	Human IgE C2C3C4 Rat IgE C2-C3-C4 His6-Op2-3-4	0	Human IgE C2C3C4 Rat IgE C2-C3-C4 His6-Op2-3-4
09	STINITW NDVSIHW AKVHVTW	120	FEDSTK VYWAHTR FEDSAQ	180	KPVNHST KSIGSAS SPVNPSS	240	RAPEVY SAPEVY KLAPEVY	300	SGFF SSNQRFF STDPSFF
50	LCLVSGYTPC YCFVYGHIQI LCLVSGFSP?	110	TCQVTYQGH: TCKVTSQGEI TCHVKHNGS:	170	NLTWSRASGI TVTWVRERKI KVTWSRESGG	230	RSTTKTSGPI RSITKAPGKI RTISKAPGKI	290	STTOPRKTKC STTTPLKYNC TTTRPQKDHC
40	GGHFPPTIQI NA-FHSTIQI RGDAHSTIQI	100	QKHWLSDRTY QQQWMSESTF QGQWMSSNTY	160	VDLAPSKGTV LDLES-EENI VDLASAEN-V	220	ТНРНГРКАГМ ОНРНГРКРІV ESPDMPVPLI	280	NEVQLPDARF DSKLIPKSQF NNEEDHTGHF
30	FTPPTVKILQSSCDGGGHFPPTIQLLCLVSGYTPGTINITW PVNITKPTVDLLHSSCDPNA-FHSTIQLYCFVYGHIQNDVSIHW PVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW	06  -	STTQEGELASTQSELTLSQKHWLSDRTYTCQVTYQGHTFEDSTK IK-EEGKLASTYSRLNITQQQWMSESTFTCKVTSQGENYWAHTR PKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSAQ	150	PSPFDLFIRKSPTITCLVVDLAPSKGTVNLTWSRASGKPVNHST PSPLDLYENGTPKLTCLVLDLES-EENITVTWVRERKKSIGSAS PTPQDLFVKKVPTIGCLIVDLASAEN-VKVTWSRESGGPVNPSS	210	LPVGTRDWIEGETYQCRVTHPHLPRALMRSTTKTSGPRAAPEVY LPVDAKDWIEGEGYQCRVDHPHFPKPIVRSITKAPGKRSAPEVY LPVNTDDWIEGDTYTCRLESPDMPVPLIRTISKAPGKRLAPEVY	270	ACLIQNFMPEDISVQWLHNEVQLPDARHSTTQPRKTKGSGFF TCLIQNFFPEDISVQWLQDSKLIPKSQHSTTTPLKYNGSNQRFF TCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDPSFF
20	NOFTPPT PVNITKPT SGPVTIIPPT	80	rasttoegel 7lik-eegkl rrpkreggot	140	RPSPFDLFI PPSPLDLYE JPPTPQDLFV	200	STLPVGTRDW SILPVDAKDW SHLPVNTDDW	260	LACLIQNEM LTCLIQNEF VTCLIRGEY
10	DNKTFSVCSRD DLTIRAR EFHHHHHTLSLPESG	70	LEDGQVMDVDLSTASTTQEGELASTQSELTLSQKHWLSDRTYTCQVTYQGHTFEDSTK Human IGE C2-LMDDRKIYETHAQNVLIK-EEGKLASTYSRLNITQQQWMSESTFTCKVTSQGENYWAHTR RAT IGE C2-CLVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSAQ His6-Op2-3-4	130	KCADSNPRGVSAYLSRPSPFDLFIRKSPTITCLVVDLAPSKGTVNLTWSRASGKPVNHST RCSDDEPRGVITYLIPPSPLDLYENGTPKLTCLVLDLES-EENITVTWVRERKKSIGSAS KCSDTDPRGISAYILPPTPQDLFVKKVPTIGCLIVDLASAEN-VKVTWSRESGGPVNPSS	190	RKEEKORNGTLTVTST QRSTKHHNATTSITSI LVVKEQYNGTFTVTSH	250	AFATPEWPGSRDKRTLACLIQNFMPEDISVQWLHNEVQLPDARHSTTQPRKTKGSGFF VFLPPE-EEEKDKRTLTCLIQNFFPEDISVQWLQDSKLIPKSQHSTTTPLKYNGSNQRFF MLP-PSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDPSFF
			53 51 61		111 110 121		171 169 180		231 229 240

Human IgE C2C3C4 Rat IgE C2-C3-C4 His6-Op2-3-4

350

340

330

320

310

IFSRLEVTKALWTQTKQFTCRVIHEALREPRKLERTISKSLGNTSLRPSQASM

289 288 299

LYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN

**VFSRLEVTRAEWEQKDEFICRAVHEAASPSQTVQRAVSVNPGK** 

APPROVED Q.G. FIG.

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DRAFTSMAN

Appln 36: 09/401,636 Page 10 Applicant(s): Lars Hellman IMMUNOGENIC POLYPEPTIDES FOR INDUCING ANTI-SELF IGE RESPONSES

Fig. 2a

APPROVED BY Ο.G. FIG CLASS SUBCLASS DRAFTSMAN

in No.: 09/401,636

Applicant(s): Lars Hellman MMUNOGENIC POLYPEPTIDES FOR INDUCING ANTI-SELF

**IGE RESPONSES** 

EFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLWSGFSPAKVHVTW His6-Op2-ratOp3-Op4 EFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLWSGFSPAKVHVTW His6-Op2-Mouse3-Op4 EFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLWSGFSPAKVHVTW His6-Op2-3-4 EFHHHHHHTLSLPESGPVTIIPPTVKLLHSSCDPRGDSQASIELLCLITGYSPAGIQVDW His6-Platypus C2-C3-C4	TO 80 90 100 110 420  EVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS His6-OpC2-RatC3-OpC4  EVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS His6-Op2-ratOp3-Op4  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS His6-Op2-Mouse3-Op4  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS His6-Op2-3-4  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS His6-Op2-3-4  LVDGQEAENLFPYTTRPKREGGOTFSLQSEVNITQDQWLSGKTFTCQVTHLADKKTYQDS His6-Platypus C2-C3-C4	
PAKVHVTW PAKVHVTW PAKVHVTW PAGIQVDW	MGSIFEDS 1 NGSIFEDS 1 NGSIFEDS 1 NGSIFEDS 1 NGSIFEDS 1	180
LLCLWSGFS LLCLWSGFS LLCLWSGFS LLCLTGYS	110 YTCHVKH YTCHVKH YTCHVKH YTCHVKH	170
RGDAHSTIQ RGDAHSTIQ RGDAHSTIQ RGDSQASIE	100 L DGQWMSSNT QGQWMSSNT QGQWMSSNT QGQWMSSNT QDQWLSGKT	160
VKLFHSSCDP VKLFHSSCDP VKLFHSSCDP VKLLHSSCDP	90 FSLQSEVNIT FSLQSEVNIT FSLQSEVNIT FSLQSEVNIT FSLQSEVNIT	150
SGPVTI IPPT SGPVTI IPPT SGPVTI IPPT SSK-DPI PPT	80 TRPKREGGOT TRPKREGGOT TRPKREGGOT TRPKREGGOT	140
EFHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-Op2-rate EFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-Op2-MouseFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-Op2-3-4 EFHHHHHHTLSVSDSSK-DPIPPTVKLHSSCDPRGDSQASIELLCLITGYSPAGIQVDW His6-Platypu	70 80 100 110 120  LVDGQEAENLFPYTTRPKREGGQTFSLØSEVNITTQGQWMSSNTYTCHVKHNGSIFEDS  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS  LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDS  LVDGQEAENLFPYTTRPKREGNRSFSSHSEVNITQDQWLSGKTFTCQVTHLADKKTYQDS	130
<b>н</b> н н н	61 61 61 60	

EFHHHHHHTLSIPESGPVTITEPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-OpC2-RatC3-OpC4

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Fig. 2a1

C2-C3-C4 His6-OpC2-RatC3-OpC4 His6-Op2-ratOp3-Op4 His6-Op2-Mouse3-Op4 His6-Platypus His6-Op2-3-4 SRRCSDDEPRGVITYLIPPSPLDLYENGTPKLTCLVLDLESEENITVTWVRERKKSIGSA SRRCPDHEPRGVITYLIPPSPLDLYQNGAPKLTCLVVDLESEKNVNVTWNQEKKTSV-SA AQKCSDTDPRGISAYILPPTPQDLFVKKVPTIGCLIVDLASAENVKVTWSRESGGPV-NP SRRCSDDEPRGVITYLIPPSPLDLYENGTPKLTCLVLDLESEENITVTWVRERKKSIGSA APKCADSDPRGITVFLTPPSPTDLYISKTPKLTCLIIDLVSTEGMEVTWSRESGTPL-SA 119 119 119 119 120

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APPROVED O.G. FIG.
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Applicant(s): Lars Hellman
IMMUNOGENIC POLYPEPTIDES FOR INDUCING ANTI-SELF
IGE RESPONSES

190 210 220 230 240  179 SQRSTKHHN-ATTSITELPVDAKDWIEGEGYQCRVDHPHFPKPIVRSITKLPGKRLAPE His6-OpC2-RatC3-OpC4  179 RSLVVKEQYNGTFTVTSHLPVNTDDWIEGDTYTCPLESPDMPVPLIRTISKAPGKRLAPE His6-Op2-ratOp3-Op4  178 SQWYTKHHNNATTSITELPVVAKDWIEGYQCIVDHPDFPKPIVRSITKLPGKRLAPE His6-Op2-Mouse3-Op4  178 SSLVVKEQYNGTFTVTSHLPVNTDDWIEGDTYTCRLESPDMPVPLIRTISKAPGKRLAPE His6-Op2-3-4  179 ESFEEQKQFNGTMSFISTVPVNIQDWNEGESYTCRVAHPDLPSPLIKTVTKLPGKRLAPE His6-Platypus C2-C3-C4	250 260 270 280 300  238 VYMLPPSPEETGTTRTVTCLIRGEYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-OpC2-RatC3-OpC4  239 VYMLPPSPEETGTTRTVTCLIRGEYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-Op2-ratOp3-Op4  238 VYMLPPSPEETGTTRTVTCLIRGEYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-Op2-Mouse3-Op4  238 VYMLPPSPEETGTTRTVTCLIRGEYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-Op2-3-4  239 VYAFPPHQAEVSHGASLSLTCLIRGEYPENISVRWLLDNKPLPTEHYRTTRPLKDQGPDP His6-Platypus C2-C3-C4
240 L Hise PE Hise PE Hise PE Hise PE Hise PE Hise	300 L DP Hise DP Hise DP Hise
PGKRLAI PGKRLAI PGKRLAI PGKRLAI	QKDHGTI QKDHGTI QKDHGTI QKDHGTI LKDQGPI
230 ↓	290 HTTTRP HTTTRP HTTTRP IYRTTRP
220 I RVDHPHEPKPTV PLESPDMRVPL IVDHPDFPKPIV RLESPDMPVPL RVAHPDLPSPI	280 L L WLFNNEEDHTGE WLFNNEEDHTGE WLFNNEEDHTGE
210 I MIEGEGYQC WIEGYGYQC WIEGDTYTC WNEGESYTC	270 FYPSEISVÇ FYPSEISVÇ FYPSEISVÇ FYPSEISVÇ
190 200 210 220 230 ↓ 240 SQRSTKHHN-ATTSITSILEPVDAKDWIEGEGYQCRVDHPHFPKPIVRSITKLEPGKRLAPE His6-OpC2-RarslvykeQYNGTFTVTSHLPVNATDDWIEGDTYTCPLESPDMPVPLIRTISKAPGKRLAPE His6-Op2-rat6 SQWYTKHHNNATTSILSILPVVAKDWIEGYGYQCIVDHPDFPKPIVRSITKLPGKRLAPE His6-Op2-MousslvykeQYNGTFTVTSHLPVNTDDWIEGDTYTCRLESPDMPVPLIRTISKAPGKRLAPE His6-Op2-3-4 ESFEEQKQFNGTMSFISTVPVNIQDWNEGESYTCRVAHPDLPSPIIKTVTKLPGKRLAPE His6-Platypu	250 260 270 280 290 300  VYMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-Op2-ratuyMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-Op2-ratuyMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-Op2-3-4 VYMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-Op2-3-4 VYAFPPHQAEVSHGASLSLTCLIRGFYPENISVRWLLDNKPLPTEHYRTTRPLKDQGPDP His6-Platypu
190 2 179 SQRSTKHHN-ATTSITSIE 179 RSLVVKEQYNGTFTVTSHE 178 SQWYTKHHNNATTSITSIE 178 SSLVVKEQYNGTFTVTSHE 179 ESFEEQKQFNGTMSFISTV	250 L XMLPPSPEET YMLPPSPEET YMLPPSPEET YAFPPHQAEVSH
179 8 178 8 178 8 179 8	2 2 3 3 8 6 6 6 7 7 8 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

Fig.  $2a_2$ 

His6-Platypus C2-C3-C4

His6-Op2-3-4

SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN-

SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN

340

330

320

310

296 297 296 296

299

SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN-AYFLYSRLAVNKSTWEQGNVYTCQVVHEALP-SRNTERKFQHTSGN-

His6-OpC2-RatC3-OpC4 His6-Op2-ratOp3-Op4 His6-Op2-Mouse3-Op4

	APPROVED O.G. FIG.									
	ΈΥ	CLASS	SUBCLASS							
Į	DRAFTSMAN									

Applicant(s): Lars Hellman
IMMUNOGENIC POLYPEPTIDES FOR INDUCING ANTI-SELF
IGE RESPONSES

Fig. 2b

APPROVED O.G. FIG.

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IGE RESPONSES

Fig. 2b

09	EFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-OpC2-HumanC3-OpC4	EFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-OpC2-RatC3-OpC4	IPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-OpC2-PigC3-OpC4	IPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-OpC2-DogC3-OpC4	W His6-Op2-3-4			120	LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSSR His6-Opc2-HumanC3-Opc4	LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSSR His6-Opc2-Ratc3-Opc4	LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSSR His6-OpC2-PigC3-OpC4	LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSSR His6-OpC2-DogC3-OpC4	Q His6-Op2-3-4
v	AKVHVT	AKVHVT	AKVHVT	AKVHVT	AKVHVT			7	IFEDSS	IFEDSS	IFEDSS	IFEDSS	IFEDSA
50	CLVSGFSP	CLVSGFSP	CLVSGFSP	CLVSGFSP	CLVSGFSP			110	CHVKHNGS	CHVKHNGS	CHVKHNGS	CHVKHNGS	CHVKHINGS
40	RGDAHSTIQLI	RGDAHSTIQLI	RGDAHSTIQLI	RGDAHSTIQLI	RGDAHSTIQLI		,	100	<b>QGQWMSSNTY</b>	<b>QGQWMSSNTYT</b>	<b>QGQWMSSNTYT</b>	<b>QGQWMSSNTYT</b>	QGQWMSSNTY1
30	TVKLFHSSCDF	TVKLFHSSCDF	TVKLFHSSCDF	TVKLFHSSCDF	TVKLFHSSCDF			06 -	TFSLQSEVNIT	TFSLQSEVNIT	TFSLQSEVNIT	TFSLQSEVNIT	TFSLQSEVNIT
50 -	VTIIPP	VTIIPP	VTIIPP	VTIIPP	VTIIPP			80-	KREGGO	KREGGO	KREGGQ	KREGGO	KREGGQ
10	EFHHHHHTLSLPESGP	<b>EFHHHHHTLSLPESGP</b>	EFHHHHHTLSLPESGPVTII	EFHHHHHTLSLPESGPVTII	EFHHHHHHTLSLPESGPVTIIPPTVKLFHSSCDPRGDAHSTIQLLCLVSGFSPAKVHVTW His6-Op2-3-4			70	LVDGQEAENLFPYTTRP	LVDGQEAENLFPYTTRPI	LVDGQEAENLFPYTTRP	LVDGQEAENLFPYTTRP	LVDGQEAENLFPYTTRPKREGGQTFSLQSEVNITQGQWMSSNTYTCHVKHNGSIFEDSAQ His6-Op2-3-4
	Ч	$\vdash$	Н	Ч	⊣				61	61	61	.61	61

KC-ADSNPRGVSAYLSRPSPFDLFIRKSPTITCLVVDLAPSKGTVNLTWSRASGKPV--- His6-OpC2-HumanC3-OpC4 His6-OpC2-RatC3-OpC4 His6-OpC2-DogC3-OpC4 RCTAESEPRGVSAYLSPPTPLDLYVHKSPKLTCLVVDLASSEN-VNLLWSRENKGGVILP His6-OpC2-PigC3-OpC4 180 KCS-ESDPRGVTSYLSPPSPLDLYVHKAPKITCLVVDLATMEG-MNLTWYRESKEPV---RCS-DDEPRGVITYLIPPSPLDLYENGTPKLTCLVLDLES-EENITVTWVRERKKSI---KCS-DTDPRGISAYILPPTPQDLFVKKVPTIGCLIVDLASAEN-VKVTWSRESGGPV--160 150 121 121 121

APPROVED O.G. FIG.
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Applicant(s): Lars Hellman
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PEVYMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-OpC2-HumanC3-OpC4 NHSTRKEEKQRNGTLTVTSTLPVGTRDWIEGETYQCRVTHPHLPRALMRSTTKLPGKRLA His6-OpC2-HumanC3-OpC4 PEVYMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-OpC2-RatC3-OpC4 GSASQRSTKHHNATTSITSILPVDAKDWIEGEGYQCRVDHPHFPKPIVRSITKLPGKRLA His6-OpC2-RatC3-OpC4 His6-OpC2-PigC3-OpC4 NPGPLNKKDHFNGTITVTSTLPVNTNDWIEGETYYCRVTHPHLPKDIVRSIAKLPGKRLA His6-OpC2-DogC3-OpC4 PEVYMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-OpC2-PigC3-OpC4 PEVYMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP His6-OpC2-DogC3-OpC4 NPSSLVVKEQYNGTFTVTSHLPVNTDDWIEGDTYTCRLESPDMPVPLIRTISKAPGKRLA His6-Op2-3-4 His6-0p2-3-4 300 PEVYMLPPSPEETGTTRTVTCLIRGFYPSEISVQWLFNNEEDHTGHHTTTRPQKDHGTDP PPGPPVIKPQFNGTFSATSTLPVNVSDWIEGETYYCNVTHPDLPKPILRSISKLPGKRLA 230 290 SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN 280 220 210 330 270 200 260 320 190 250 310 176 240 236 236

His6-OpC2-HumanC3-OpC4 His6-OpC2-RatC3-OpC4 His6-OpC2-PigC3-OpC4 His6-OpC2-DogC3-OpC4 His6-OpC2-DogC3-OpC4

> SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN

296 300 296

SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN SFFLYSRMLVNKSIWEKGNLVTCRVVHEALPGSRTLEKSLHYSAGN

Fig.  $2b_2$